

S7 0 S1 AND (S2 AND S3)  
S8 0 S1 AND S3  
?  
S S3 AND (CD90)  
1845 S3  
504 CD90  
S9 48 S3 AND (CD90)  
?  
S S9 AND (TOLERAGENIC OR TOLERIZING OR TOLERANCE OR IMMUNOTOLERANT)  
48 S9  
26 TOLERAGENIC  
795 TOLERIZING  
366190 TOLERANCE  
212 IMMUNOTOLERANT  
S10 0 S9 AND (TOLERAGENIC OR TOLERIZING OR TOLERANCE OR IMMUNOTOLERANT)  
?

Set	Items	Description
S1	4645	(HUMAN (W) PLURIPOTENT (W) STEM (W) CELL?) OR HES OR HEG
S2	582	(CARDIOMYOCYTE OR CARDIOMYOCTYES) (S) (DIFFERENTIATION OR - DIFFERENTIATING OR DIFFERENTIATE)
S3	1845	(MESENCHYMAL (W) STEM (W) CELL?) (S) (DIFFERENTIATION OR D- IFFERENTIATING OR DIFFERENTIATE)
S4	8	S1 (S) S2
S5	3	RD (unique items)
S6	0	S1 (S) S3
S7	0	S1 AND (S2 AND S3)
S8	0	S1 AND S3
S9	48	S3 AND (CD90)
S10	0	S9 AND (TOLERAGENIC OR TOLERIZING OR TOLERANCE OR IMMUNOTO- LERANT)
?		
S S9 AND S1		
	48	S9
	4645	S1
S11	0	S9 AND S1
?		

COST  
25oct04 09:12:20 User259876 Session D683.2  
\$4.70 1.470 DialUnits File155  
\$0.63 3 Type(s) in Format 3  
\$0.63 3 Types  
\$5.33 Estimated cost File155  
\$1.43 0.486 DialUnits File159  
\$1.43 Estimated cost File159  
\$10.90 1.946 DialUnits File5  
\$10.90 Estimated cost File5  
\$13.09 1.336 DialUnits File73  
\$13.09 Estimated cost File73  
OneSearch, 4 files, 5.238 DialUnits FileOS  
\$2.25 INTERNET  
\$33.00 Estimated cost this search  
\$33.84 Estimated total session cost 5.445 DialUnits  
?

**Return to logon page!**

## Welcome to DialogClassic Web(tm)

Dialog level 04.18.01D  
Last logoff: 22oct04 13:07:50  
Logon file001 25oct04 09:03:13

## \*\*\* ANNOUNCEMENT \*\*\*

\*\*\*

--Connect Time joins DialUnits as pricing options on Dialog.  
See HELP CONNECT for information.

\*\*\*

--SourceOne patents are now delivered to your email inbox  
as PDF replacing TIFF delivery. See HELP SOURCE1 for more  
information.

\*\*\*

--Important Notice to Freelance Authors--  
See HELP FREELANCE for more information

\*\*\*

## NEW FILES RELEASED

\*\*\*Beilstein Abstracts (File 393)  
\*\*\*Beilstein Facts (File 390)  
\*\*\*Beilstein Reactions (File 391)  
\*\*\*F-D-C Gold/Silver Sheet (File 184)  
\*\*\*BIOSIS Toxicology (File 157)  
\*\*\*IPA Toxicology (File 153)

\*\*\*

## UPDATING RESUMED

\*\*\* RELOADED

\*\*\*Toxfile (File 156)

## REMOVED

\*\*\*Textile Technology Digest (File 119)

\*\*\*

>>> Enter BEGIN HOMEBASE for Dialog Announcements <<<  
>>> of new databases, price changes, etc. <<<

\*\*\*\*

KWIC is set to 50.

HILIGHT set on as ' '

\* \* \*

File 1:ERIC 1966-2004/Jul 21  
(c) format only 2004 The Dialog Corporation

## Set Items Description

--- -----

Cost is in DialUnits

?

B 155, 159, 5, 73

25oct04 09:03:43 User259876 Session D683.1

\$0.72 0.207 DialUnits File1

\$0.72 Estimated cost File1

\$0.12 INTERNET

\$0.84 Estimated cost this search

\$0.84 Estimated total session cost 0.207 DialUnits

## SYSTEM:OS - DIALOG OneSearch

File 155:MEDLINE(R) 1951-2004/Oct W3

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File 159:Cancerlit 1975-2002/Oct

(c) format only 2002 Dialog Corporation

**\*File 159: Cancerlit is no longer updating.**

Please see HELP NEWS159.

File 5:Biosis Previews(R) 1969-2004/Oct W3

(c) 2004 BIOSIS

File 73:EMBASE 1974-2004/Oct W3

(c) 2004 Elsevier Science B.V.

Set	Items	Description
?		
S	(HUMAN (W) PLURIPOTENT (W) STEM (W) CELL?) OR HES OR HEG	
Processing		
Processing		
	21709003	HUMAN
	11078	PLURIPOTENT
	398279	STEM
	10185214	CELL?
	143	HUMAN (W) PLURIPOTENT (W) STEM (W) CELL?
	4335	HES
	168	HEG
S1	4645	(HUMAN (W) PLURIPOTENT (W) STEM (W) CELL?) OR HES OR HEG
?		
S	(CARDIOMYOCYTE OR CARDIOMYOCTYES) (S) (DIFFERENTIATION OR DIFFERENTIATING OR DIFFE	
	9327	CARDIOMYOCYTE
	10	CARDIOMYOCTYES
	726496	DIFFERENTIATION
	70256	DIFFERENTIATING
	124246	DIFFERENTIATE
S2	582	(CARDIOMYOCYTE OR CARDIOMYOCTYES) (S) (DIFFERENTIATION OR DIFFERENTIATING OR DIFFERENTIATE)
?		
S	(MESENCHYMAL (W) STEM (W) CELL?) (S) (DIFFERENTIATION OR DIFFERENTIATING OR DIFFER	
Processing		
	54192	MESENCHYMAL
	398279	STEM
	10185214	CELL?
	726496	DIFFERENTIATION
	70256	DIFFERENTIATING
	124246	DIFFERENTIATE
S3	1845	(MESENCHYMAL (W) STEM (W) CELL?) (S) (DIFFERENTIATION OR DIFFERENTIATING OR DIFFERENTIATE)
?		
S	S1 (S) S2	
	4645	S1
	582	S2
S4	8	S1 (S) S2
?		
RD		
...	completed examining records	
S5	3	RD (unique items)
?		
T	S5/3,K/ALL	

5/3,K/1 (Item 1 from file: 155)

DIALOG(R) File 155:MEDLINE(R)

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16747283 PMID: 15319521

**Beta-adrenergic and Muscarinic Modulation of Human Embryonic Stem Cell-derived Cardio-myocytes.**

Reppel Michael; Boettinger Cornelia; Hescheler Juergen

Institute of Neurophysiology, University of Cologne.

Cellular physiology and biochemistry - international journal of experimental cellular physiology, biochemistry, and pharmacology (Switzerland) 2004, 14 (4-6) p187-96, ISSN 1015-8987 Journal Code: 9113221

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: In Data Review

Background: Embryonic stem cells provide the most promising tool for cell replacement therapy including transplantation of human embryonic stem ( **hES** ) cell- derived cardiomyocytes in the infarcted area of the heart. Here we provide data for **differentiation** of cardiomyocytes from **hES** cells and firstly describe their hormonal modulation. Methods: Using Micro-Electrode Arrays as a novel electrical mapping technique of beating **cardiomyocyte** clusters within whole **hES** cell aggregates, we were able to measure the field potential generation and morphology changes during hormonal modulation. Results: We found that isoproterenol provokes, similar to...

5/3,K/2 (Item 2 from file: 155)

DIALOG(R) File 155:MEDLINE(R)

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12392773 PMID: 12742992

**Differentiation of human embryonic stem cells to cardiomyocytes: role of coculture with visceral endoderm-like cells.**

Mummery Christine; Ward-van Oostwaard Dorien; Doevendans Pieter; Spijker Rene; van den Brink Stieneke; Hassink Rutger; van der Heyden Marcel; Opthof Tobias; Pera Martin; de la Riviere Aart Brutel; Passier Robert; Tertoolen Leon

Hubrecht Laboratory, University Medical Center Utrecht, Utrecht, The Netherlands. christin@niob.knaw.nl

Circulation (United States) Jun 3 2003, 107 (21) p2733-40, ISSN 1524-4539 Journal Code: 0147763

Comment in Circulation. 2003 Jun 3;107(21) 2638-9; Comment in PMID 12782614

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

BACKGROUND: Cardiomyocytes derived from human embryonic stem ( **hES** ) cells could be useful in restoring heart function after myocardial infarction or in heart failure. Here, we induced **cardiomyocyte differentiation** of **hES** cells by a novel method and compared their electrophysiological properties and coupling with those of primary human fetal cardiomyocytes. METHODS AND RESULTS: **hES** cells were cocultured with visceral-endoderm (VE)-like cells from the mouse. This initiated **differentiation** to beating muscle. Sarcomeric marker proteins, chronotropic responses, and ion channel expression and function were typical of cardiomyocytes. Electrophysiology demonstrated that most cells resembled human fetal ventricular cells. Real-time intracellular calcium measurements, Lucifer yellow injection, and connexin 43 expression demonstrated that fetal and **hES** -derived cardiomyocytes are coupled by gap junctions in culture. Inhibition of electrical responses by verapamil demonstrated the presence of functional  $\alpha_1$ -calcium ion channels. CONCLUSIONS: This is the first demonstration of induction of **cardiomyocyte differentiation** in **hES** cells that do not undergo spontaneous cardiogenesis. It provides a model for the study of human cardiomyocytes in culture and could be a step forward in the development of **cardiomyocyte** transplantation therapies.

5/3,K/3 (Item 3 from file: 155)

DIALOG(R) File 155:MEDLINE(R)

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12020988 PMID: 12242268

**Characterization and enrichment of cardiomyocytes derived from human embryonic stem cells.**

Xu Chunhui; Police Shailaja; Rao Namitha; Carpenter Melissa K  
Geron Corporation, Menlo Park, Calif 94025, USA. cxu@geron.com

Circulation research (United States) Sep 20 2002, 91 (6) p501-8,

ISSN 1524-4571 Journal Code: 0047103

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

... diseases, but is challenged by a limited supply of appropriate cells. We have investigated whether functional cardiomyocytes can be efficiently generated from human embryonic stem ( **hES** ) cells. **Cardiomyocyte differentiation** was evaluated using 3 parent (H1, H7, and H9) **hES** cell lines and 2 clonal (H9.1 and H9.2) **hES** cell lines. All cell lines examined differentiated into cardiomyocytes, even after long-term culture (50 passages or approximately 260 population doublings). Upon **differentiation**, beating cells were observed after one week in **differentiation** conditions, increased in numbers with time, and could retain contractility for over 70 days. The beating cells expressed markers characteristic of cardiomyocytes, such as cardiac alpha-myosin heavy chain, cardiac troponin I and T, atrial natriuretic factor, and cardiac transcription factors GATA-4, Nkx2.5, and MEF-2. In addition, **cardiomyocyte differentiation** could be enhanced by treatment of cells with 5-aza-2'-deoxycytidine but not DMSO or retinoic acid. Furthermore, the differentiated cultures could be dissociated and enriched by Percoll density centrifugation to give a population containing 70% cardiomyocytes. The enriched population was proliferative and showed appropriate expression of **cardiomyocyte** markers. The extended replicative capacity of **hES** cells and the ability to **differentiate** and enrich for functional human cardiomyocytes warrant further development of these cells for clinical application in heart diseases.

?

Set	Items	Description
S1	4645	(HUMAN (W) PLURIPOTENT (W) STEM (W) CELL?) OR HES OR HEG
S2	582	(CARDIOMYOCYTE OR CARDIOMYOCTYES) (S) (DIFFERENTIATION OR - DIFFERENTIATING OR DIFFERENTIATE)
S3	1845	(MESENCHYMAL (W) STEM (W) CELL?) (S) (DIFFERENTIATION OR D- IFFERENTIATING OR DIFFERENTIATE)
S4	8	S1 (S) S2
S5	3	RD (unique items)
?		
S S1 (S) S3		
	4645	S1
	1845	S3
S6	0	S1 (S) S3
?		
S S1 AND (S2 AND S3)		
	4645	S1
	582	S2
	1845	S3
S7	0	S1 AND (S2 AND S3)
?		
S S1 AND S3		
	4645	S1
	1845	S3
S8	0	S1 AND S3
?		

Set	Items	Description
S1	4645	(HUMAN (W) PLURIPOTENT (W) STEM (W) CELL?) OR HES OR HEG
S2	582	(CARDIOMYOCYTE OR CARDIOMYOCTYES) (S) (DIFFERENTIATION OR - DIFFERENTIATING OR DIFFERENTIATE)
S3	1845	(MESENCHYMAL (W) STEM (W) CELL?) (S) (DIFFERENTIATION OR D- IFFERENTIATING OR DIFFERENTIATE)
S4	8	S1 (S) S2
S5	3	RD (unique items)
S6	0	S1 (S) S3

*OP=AND*

<u>L9</u>	L8 and (immunotolerant or tolerizing or toleragenic or tolerance)	5	<u>L9</u>
<u>L8</u>	L4 or L6	39	<u>L8</u>
<u>L7</u>	L6 and L4	6	<u>L7</u>
<u>L6</u>	L5 same L2	25	<u>L6</u>
<u>L5</u>	(cardiomyocyte) same (differentiating or differentiation)	542	<u>L5</u>
<u>L4</u>	L3 same L2	20	<u>L4</u>
<u>L3</u>	(mesenchymal adj stem) same (differentiating or differentiation)	140	<u>L3</u>
<u>L2</u>	(hES or hEG) or ((pluripotent or primordial or primitive) adj stem)	1629931	<u>L2</u>
<u>L1</u>	Chiu-Choy-Pik.in.	8	<u>L1</u>

END OF SEARCH HISTORY

## Refine Search

### Search Results -

Term	Documents
IMMUNOTOLERANT	119
IMMUNOTOLERANTS	0
TOLERIZING	562
TOLERISING	31
TOLERAGENIC	34
TOLERAGENICS	0
TOLERANCE	225936
TOLERANCES	176464
(8 AND (TOLERAGENIC OR IMMUNOTOLERANT OR TOLERIZING OR TOLERANCE)).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	5
(L8 AND (IMMUNOTOLERANT OR TOLERIZING OR TOLERAGENIC OR TOLERANCE) ).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	5

Database:

US Pre-Grant Publication Full-Text Database  
US Patents Full-Text Database  
US OCR Full-Text Database  
EPO Abstracts Database  
JPO Abstracts Database  
Derwent World Patents Index  
IBM Technical Disclosure Bulletins

Search:

L9

Refine Search

Recall Text



Clear

Interrupt

### Search History

DATE: Monday, October 25, 2004 [Printable Copy](#) [Create Case](#)

Set Name Query  
side by side

Hit Count

Set  
Name  
result set

DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; THES=ASSIGNEE; PLUR=YES;

 PALM INTRANET

Day : Monday  
Date: 10/25/2004  
Time: 09:37:07

## Inventor Name Search

Enter the **first few letters** of the Inventor's Last Name.

Additionally, enter the **first few letters** of the Inventor's First name.

**Last Name**

**First Name**

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Day : Monday  
Date: 10/25/2004  
Time: 09:37:07

## Inventor Name Search

Enter the **first few letters** of the Inventor's Last Name.

Additionally, enter the **first few letters** of the Inventor's First name.

**Last Name**

**First Name**

Kay	Robert M	Search
-----	----------	--------

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